

What is claimed is:

Sub B1 → 1. A high hardness, soft composite material which consists of an organic/inorganic composite material having at least 60% by weight of inorganic components including an aggregate component, and which has a surface Vickers hardness (JIS Z 2244) of at least 400 and a radius of curvature, at which the material is bendable without being broken, of at least R25 mm based on a platy body having a 3 to 15 mm thickness.

2. The composite material according to claim 1, wherein the radius of curvature R is 25 to 1,000 mm.

Sub A 3. The composite material according to claim 1 or 2, wherein the inorganic components comprise an aggregate component of a 2 to 70 mesh size, and a fine particle component of a small particle size of 100 mesh or smaller.

4. The composite material according to any of claims 1 to 3, wherein the weight ratio of the aggregate component and the fine particle component is (aggregate component/fine particle component) = 1/10 to 10/1.

5. The composite material according to any of claims 1 to 4, wherein the organic component is contained by 40% by weight or less with respect to the total amount.

6. The composite material according to any of claims 1 to 5, wherein the main component of the organic component is a curing type resin.

7. The composite material according to any of claims 6 to 7, wherein the main component resin of the organic component is a methacrylic based resin.

8. The composite material according to any of claims 6 or 7, wherein a plasticizer is contained as the organic component.

9. The composite material according to any of claims 1 to 8, wherein the resin component is contained by 6 to 15% by weight with respect to the total amount.

A²
10. The composite material according to any of claims 1 to 9, wherein a transparent component is contained at least as a part of the aggregate component.

11. The composite material according to any of claims 1 to 10, wherein a transparent component with the surface covered with a pigment component is contained at least as a part of the aggregate component.

12. The composite material according to any of claims 1 to 11, wherein a luminous material or a fluorescent material is contained.

13. The composite material according to any of claims 1 to 12, wherein a flame retarder is contained.

14. The composite material according to any of claims 1 to 13, wherein a pigment for coloring is contained in the organic component.

15. The composite material according to any of claims 1 to 14, wherein an antibacterial agent is contained.

16. The composite material according to any of claims 1 to 15, wherein the surface of a compact is treated by polishing, a water jet process, or a water jet process after polishing.

A²
17. The composite material according to any of claims 1 to 16, wherein the main component of the organic component is the methacrylic based resin, to be cured by a combination of a polymethacrylate and at least one selected from the group consisting of a methacrylate monomer, and an acrylate monomer.

18. The composite material according to any of claims 1 to 17, wherein the polymethacrylate is a polymethyl methacrylate (PMMA), the methacrylate monomer and the acrylate monomer is one selected from the group consisting of a methyl methacrylate, an ethylhexyl methacrylate, and an ethylhexyl acrylate.

19. The composite material according to any of claims 1 to 18, wherein a force needed for a bending process of a platy body having a 3 to 15 mm thickness is 1 kgf/cm² or less.